

Statutory Authority and Policy Governing the KETS Master Plan

The Master Plan for Education Technology

With the beginning of the KETS program, [KRS 156.666](#) established the Council for Education Technology as an advisory group to the Kentucky Board of Education. This council was responsible for providing guidance on the development of the Master Plan for Education Technology. Over time, the responsibility for guidance and development of the Master Plan has been transitioned to the Office of Knowledge, Information and Data Services within the Kentucky Department of Education.

Approval and Update of the Master Plan

The Kentucky Board of Education and the Legislative Research Commission shared initial approval authority for the Master Plan pursuant to [KRS 156.670\(1\)](#).

[KRS 156.670\(7\)](#) places responsibility for updating the plan, as necessary, with the council and the board. Updates are to be reported to the Legislative Research Commission.

Standards

[KRS 156.160\(1\)](#) stipulates that the Kentucky Board of Education has a statutory mandate to prescribe standards, which school districts shall meet. Among these are standards for the "acquisition and use of educational equipment for the schools as recommended by the Council for Education Technology" ([KRS 156.160 \(1\)\(b\)](#)).

[KRS 156.670 \(3\)](#) states that the Master Plan shall "establish and implement a uniform and integrated system of standards and guidelines for financial accounting and reporting which shall be used by all school districts."

[KRS 156.670 \(4\)](#) requires that the education technology system provide "comprehensive, current, accurate, and accessible information relating to management, finance, operations, instruction, and pupil programs which are under the jurisdiction of the Department of Education." The chief state school officer must certify these data to support administration of the Support Education Excellence in Kentucky (SEEK) fund, which provides funding to support the public school system in accordance with [KRS 157.330](#). The guaranteed base funding level for each district is computed based on the prior year's average daily attendance ([KRS 157.360\(1\)](#)), which is calculated based on data collected within the school and accumulated at the district level. To support this funding process, the Kentucky Board of Education has the obligation and authority to establish standards for administrative systems at the district and school level, including, but not limited to, uniform codes, processes and software systems.

The statutes do not restrict the standards-setting responsibilities noted above to any particular source of funds. The Kentucky Board of Education, therefore, has the authority and obligation to specify standards for education technology to which school district acquisitions of hardware and software are subject regardless of source of funds. The board may specify, as it deems necessary, a standard for any line item in the Master Plan budget.

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These standards are set forth in the Master Plan for Education Technology and incorporated by reference into Kentucky Administrative Regulations (KARs) pursuant to [701 KAR 5:110](#) and in compliance with [KRS 156.160](#) (1).

Districts are required by [701 KAR 5:110](#) to procure only those technologies that meet KETS standards, if a standard for that category has been established, regardless of source of funds.

Education Technology Trust Fund

The Education Technology Trust Fund is established in the Finance and Administration Cabinet by [KRS 157.665](#)(1) to provide education technology for the public school system.

Funds are appropriated to the trust fund in each biennial budget. All interest earned on money in the fund is retained for reinvestment in the fund. All money credited to the fund, including interest, is to be used for education technology as defined by the Kentucky Board of Education's Master Plan and does not lapse ([KRS 157.665](#)(2)).

The School Facilities Construction Commission, within the Finance and Administration Cabinet, is responsible for distributing state funds to local districts through the education technology-funding program ([KRS 157.650](#)).

To participate in the education technology funding program, a local public school district must have an unmet technology need described in the district plan and approved by the Kentucky Board of Education ([KRS 157.655](#)(3)).

The base level of assistance to each district is determined by dividing the total amount available in the trust fund by the total of the prior year's average daily attendance of the eligible districts times the individual district's prior year's average daily attendance ([KRS 157.660](#)(1)).

Funds transferred to districts are to be used only for the projects included in the district's plan ([KRS 157.660](#)(2)).

Trust funds are transferred to local districts after the district's need for assistance has been certified by the School Facilities Construction Commission. All other expenditures from the fund require the approval of the Kentucky Board of Education ([KRS 157.655](#) (3)).

Calculation of Unmet Need

Any technology procured or secured by a district, in a category for which a KETS unmet need standard is established, regardless of whether the item is used to reduce the unmet need or not, must meet or exceed the KETS standard in compliance with [701 KAR 5:110](#).

Any technology procured or secured by a district, in a category for which a KETS unmet need standard is established, regardless of whether the item is used to reduce the unmet need or not, must be included in the District Plan as inventory.

Approval of the unmet need amounts for local school districts is the first step required to allow local school districts to receive state funding to assist them in funding hardware, software, personnel,

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professional development and other technology initiatives that will support students in achieving academic excellence.

Staff certify that the districts recommended by the Commissioner of Education have met all the statutory requirements of [KRS 157.655](#) and [KRS 157.660](#) and will be required to adequately describe their unmet need and current KETS inventory before Offers of Assistance are distributed.

The following must occur before a district receives its funding:

1. Kentucky Board of Education approves unmet need for districts.
2. School Facilities Construction Commission (SFCC) approves unmet need.
3. The district successfully meets all of the statutory requirements of [KRS 157.655](#) and [KRS 157.660](#).
4. The district verifies its final ADA count to KDE's Division of School Finance.
5. KETS staff calculates Offers of Assistance based on these variables.

The districts must follow requirements of the SFCC by receiving approved board action and proof of deposit of funds into a local interest bearing technology account. The SFCC will then wire funds to the district's technology account.

There are four categories of unmet need:

1. operations;
2. maintenance;
3. incremental replacement;
4. new technologies

Expenditures in **operations and maintenance** are absolutely necessary to sustain current levels of service. If unmet need within the operations and maintenance categories is not addressed in accordance with program guidelines, the integrity, sufficiency and capacity of the district technology infrastructure will degrade until services are seriously curtailed or eliminated. These include items such as student workstation repair, teacher workstation repair, instructional software improvements, classroom printer repair, instructional fileserver repair, school management software improvements, initial/ongoing technology integration, professional development, student technology leadership services, Internet services, telephone communications to parents, distance learning service, help desk services, e-mail services, enterprise data system access and school financial management services.

The unmet need for **incremental replacement** constitutes a framework for replacement of various technology components on a scheduled basis over time, in accordance with the life cycle of each item or service. These include items such as student instructional devices, teacher instructional devices, instructional servers, assistive and adaptive technology, school laser printers, classroom color printers, wireless networks, student hand-held devices, high-speed fiber networks, desktop conferencing and digital projection devices.

The unmet need for **new technologies** includes products and services that are more discretionary in nature, products and services that are today only marginally available or affordable and products and services that are perceived as needs in the planning horizon.

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The Kentucky Board of Education will acknowledge and approve the unmet need for each district. In the KETS Implementation Plan, the board also will be considering approval of the amount of funds available to go toward that unmet need. Districts must continue to secure alternative funding sources beyond the KETS funds, using federal funds, local grants or other sources, to fully fund the unmet need. Budgeting skills will be required to sustain and implement Phase III of KETS.

Product Standards

Our approach is an enterprise design in which all districts are working toward common objectives. When all districts use product standards, all of the state's school districts maximize the taxpayer dollars by ensuring the highest possible levels of interoperability and a consistent look on any instructional device across the state. Standards also minimize the retraining required when staff move between schools or districts and lessen the annual support required after implementation. The purchasing power of the state is maximized by leveraging the weight of the entire organization to buy a product standard. The Gartner Group noted that Kentucky was saving millions with the architectural standards approach.

Components for which standards are established include:

- student, teacher and administrator [instructional devices](#)
- instructional and administrative [printers](#)
- instructional and administrative [servers](#)
- [network components](#): routers, network switches, [wireless controllers and access points](#), [Telco data lines](#), Telco voice lines, [video conferencing](#)
- building wiring (incorporates EIA/TIA standards): work area wiring, horizontal wiring subsystem, building backbone subsystem, campus backbone subsystem, power wiring, installation standards
- remote communications: [VPN](#)
- [software](#): network operating systems, operating systems, relational database systems, office products (word processing, spreadsheet, calendar, graphics, end-user database), electronic mail, Internet browser, remote access software, proxy software, network management software, desktop management software
- Instructional software: KETS does not establish specific standards for instructional software. KETS has developed guidelines in the form of a checklist for educators to use during software selection. Instructional software must run, however, on KETS-standard hardware in a KETS-standard network environment. To secure discounted pricing, KETS does issue competitive solicitations and establish price contracts for the most popular instructional software products.
- applications: district financial management and administrative management, school student management, district-level accumulator, online instructional software review service
- Video monitors
- Help Desk services
- maintenance services
- multimedia applications and services: [projectors](#), [whiteboards](#)
- distance learning: [Kentucky Virtual Library \(KVL\)](#), [Kentucky Education Television \(KET\)](#), Kentucky Virtual University (KVU)
- proficiency training
- assistive and adaptive technology
- enterprise database

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- instructional and administrative technology integration leadership
- STLP
- [telephone systems](#)

Technology Standards

Technology Standards represent a uniform set of specifications and guidelines which are leveraged to insure system interoperability and reduce operational complexity, therefore reducing the overall Total Cost of Ownership.

“The Commonwealth is committed to the guiding principle of viewing technology investments from an enterprise perspective. The Enterprise Architecture and subsequent standards represent the overall plan and a living process for designing and implementing information technology solutions to serve both instructional and business functions.

An information technology architecture and related set of standards are vital to ensure the compatibility of the current IT projects and other future IT initiatives. The Enterprise Standards are important for defining the rules by which technology is envisioned, implemented, and managed.”

Since 1992, Enterprise Standards have anchored all instructional, administrative, and technical aspects of Education Technology. These standards have afforded the Commonwealth a) significant savings in the initial procurement of technology equipment, b) equitable supportability regardless of geographic location, c) a foundational infrastructure to provide for secure, global ease of access, d) statewide collaboration via various forms of electronic mediums (email, telephonic, video-conferencing), e) statewide adoption of the Internet as an instructional resource, and f) uniform business applications to address both student management and financial management. All Commonwealth of Kentucky Public School districts share in the benefit of each of these efficiencies due to a common set of technology standards.

Standards Community

A standards organization, also referred to as standards development organization or SDO, is any entity whose primary activities are developing, coordinating, promulgating, revising, amending, reissuing, interpreting, or otherwise maintaining standards that address the interests of a wide base of users outside the standards development organization.

KETS Standards are derived and/or subsequently adopted with either input from, or as a directive of a variety of these entities:

- **Industry Standards Organizations** such as ANSI, IEEE, IETF, SANS, ISC2.
- **Legislative Organizations** such as the Kentucky General Assembly, and the Kentucky Board of Education.
- **Educational Organizations** such as ISTE, SREB, CCSO, and NECC.
- **State Organizations** such as the Commonwealth Office of Technology (COT), Kentucky Standards for Technology in Education (KySTE), and Kentucky Department of Education (KDE).
- **Research Organizations** such as Gartner.

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Enterprise Architecture, Policy, Products, and Standards

Enterprise Architecture and Standards covers the broad spectrum of technology environments to include software, hardware, networks, applications, data, security, access, communications, project management and other relevant architecture disciplines. These technology areas are described in domains, and each domain contains enterprise policies, standards, and products to support the vision. Additionally, specific technology components (hardware or software) which have been deemed by either the Kentucky Department of Education or Commonwealth Office of Technology as an enterprise component and subsequently made available via a Statewide Procurement vehicle (State or KETS Contract) are considered KETS and/or State Product Standards.

These product standards are listed within the respective Enterprise Standards Domains:

Enterprise Standard Domains

1. Infrastructure

- **Network**

LAN, WAN, Physical Wire/Fiber, Wireless, Protocols, Components, Computing Services, Switches, Modems, VPN/Remote Connectivity, Installation Standards

- **Security Systems**

Information Security Management, Architecture and Models, Access Control Systems and Methodology, Applications and Systems Development, Operations Security, Cryptography, Physical Security, Telecommunications, Network and Internet Security, Business Continuity and Disaster Recovery Planning, Law, Investigation and Ethics

- **Hardware**

Instructional Devices (PC, MAC, Android), Servers, Storage Systems, Printers

- **Software**

Operating Systems, Office Suite, Database Management Systems, Student Information System, MUNIS, CIITS, Email, Proxy, Internet Browser, SharePoint, Remote Access, Anti-Virus, Multimedia

- **Software as a Service (SaaS)**

Email, Office Suite, iTunes U, Applications as a service

2. Data - common data elements, data definitions, naming conventions, geographic information system (GIS) data standards

- **Administration**

KSIS, Financial Management System

- **Management**

- **Metadata**

3. Operations Environment

- **Support Management**

Helpdesk

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- **Operations Management**

Performance Monitoring, Backup, etc.

- **Web Management**

- **Systems Management**

Tools for management and control of instructional devices, servers, networks and IT infrastructure

4. Communications

- **Internet**

Wireless controllers and Access Points, Cloud Based Communications

- **Telephony**

Voicemail, Interactive Voice Response (IVR),

- **Video**

Video conferencing

- **Collaboration**

Email, Instant Messaging, SharePoint

5. Project Management - Discipline of defining and achieving targets while allocating use of resources (time, money, people, materials, energy, space, etc.) over the course of a project.

- **Tools and Method**

All KETS and State Enterprise Architecture, Policies, Products, and Standards can be located at the following URLs:

KETS Standards - <http://education.ky.gov/districts/tech/taps/Pages/Tech-Arch-Standards.aspx>

State Standards - <http://technology.ky.gov/Pages/default.aspx>

Unmet Need Standards and Policies

Unmet Need Standards represent the equitable baseline of all technology components required to adequately address both the instructional and administrative needs of K12. These standards are derived from two separate but complimentary criteria:

- **Component Ratios** (Quantities) – Baseline minimum ratios for each technology component have been established based on average daily attendance, total number of schools, total number of teachers, or total number of classrooms. It is the expectation that all districts maintain these minimum ratios to effectively address equitable ease of access for all instructional and administrative activities.
- **Component Standards** (Products) – All published architectural standards and associated products are considered KETS Standard Components.

Any technology procured or secured by a district, in a category for which a Kentucky Education Technology System unmet need standard is established, regardless of whether the item is used to reduce the unmet need or not, must meet or exceed the KETS standard in compliance with 701 KAR 5:110.

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Technology secured through local initiative which is not procured with public revenues will not be used to reduce the unmet need of the district for the purpose of calculating the amount of offers of assistance for which the district is eligible.

Technology procured with federal categorical funds will not be used to reduce the unmet need of the district for the purpose of calculating the amount of offers of assistance for which the district is eligible.

Architectural Standards Committee

The KETS Architectural Standards Committee (KASC) has been formed to participate in the overall governance aspects of Architectural Standards adoption and/or modification. This committee is comprised of both local school district and KDE representatives, and is chartered to provide guidance, input, and recommendations into the overall process of standards adoption.

The KASC meets on a bi-monthly basis and submits its recommendations to the Office of Knowledge Information Data Systems. Once the request is accepted members at times where appropriate may work very closely on various action teams to provide the content for the recommended standards that will be generated.

For more information visit:

<http://education.ky.gov/districts/tech/taps/pages/asc.aspx>